

REMARKS

The Office Action dated January 13, 2006 has been reviewed and the Examiner's comments carefully considered. Prior to this paper Claims 1-22 were pending in the application. By this paper, Applicants do not cancel any claims, and add claims 23-28. Therefore, claims 1-28 are now pending.

Applicants respectfully submit that the present application is in condition for allowance for at least the reasons that follow.

Indication of Allowable Subject Matter

Applicants thank Examiner Chin for the indication that claims 9-14 and 16-20 contain allowable subject matter.

Objections to the Claims

Claims 1, 9 and 21-22 were objected to as containing informalities. Applicants have amended the claims as seen above, and request reconsideration.

Rejections Under 35 U.S.C. § 102

Claims 1-8, 15 and 21-22 stand rejected under 35 U.S.C. §102(e) as being anticipated by Matsumoto (United States Patent No. 6,708,098). In response, Applicants traverse the rejection of these claims, and respectfully submit that the above claims are allowable for at least the reasons that follow.

Applicants rely on MPEP § 2131, entitled "Anticipation – Application of 35 U.S.C. 102(a), (b), and (e)," which states that a "claim is anticipated only if each and every element

as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Section 103 amplifies the meaning of this anticipation standard by pointing out that anticipation requires that the claimed subject matter must be “*identically* disclosed or described” by the prior art reference. (Emphasis added.) It is respectfully submitted that Matsumoto does not describe each and every element of independent claims 1, 21 and 22, and thus does not anticipate these claims and any claim that depends therefrom.

Claim 1 recites a lane keep control apparatus, comprising a deceleration controlled variable calculating section and a braking force controlling section that controls a braking force acted upon each driven wheel on the basis of the calculated deceleration controlled variable. Claim 1 further recites that the deceleration controlled variable calculating section “calculates a deceleration controlled variable on the basis of a state of a tendency of a vehicular deviation from a traffic lane on which the vehicle is traveling.”

The specification details that the deceleration controlled variable may be calculated utilizing proportional coefficient(s) which are in turn based on an operational environment/maneuver (*e.g.*, road curvature / angle formed by vehicle and the road) and/or characteristic of the vehicle, and factors relating to operational maneuvers in which the vehicle is subjected to / anticipated to be subjected to (*e.g.*, lateral displacement / anticipated later displacement), *etc.* The deceleration controlled variable operates to decelerate the vehicle in a significant manner, and the deceleration *controlled variable is accordingly thus calculated* in a manner to decelerate the vehicle in this significant manner. This is detailed in the specification in view of an exemplary embodiment implementing the teachings of the present application:

Then, *deceleration controlled variable* P_g is calculated to be large so that absolute value $|X_S|$ of future estimated lateral displacement X_S is smaller than deviation determination threshold value X_c . At step S5, the braking fluid pressure command value is outputted to braking fluid pressure control circuit 7. At this time, the target braking fluid pressure is outputted to respective road wheel cylinders so that the vehicle is largely decelerated. *Therefore, traveling velocity V of the vehicle becomes small (slow) at the earlier timing. The time duration for which the vehicle is deviated from the traffic lane, namely, the time duration for which the vehicle driver can manipulate steering wheel 21 so as to avoid the*

traffic lane deviation of the vehicle becomes long. In addition, the turning radius of the vehicle becomes accordingly small. Consequently, the deviation avoidance performance of the vehicle from the traffic lane on which the vehicle is traveling can be improved.

(Specification, paragraph 0042, emphasis added.) In other words, through calculation of the deceleration controlled variable “on the basis of a state of a tendency of a vehicular deviation from a traffic lane on which the vehicle is traveling” (claim 1), a braking force may be controlled, for example, to improve a time duration for a driver of a vehicle to react to the road departure.

In contrast, Matsumoto teaches implementation of a device that imparts a *yaw motion* onto a vehicle in a scenario where there is vehicular deviation from a traffic lane. This is done to impart a corrective force on the vehicle back towards the lane. (*See, e.g.*, abstract of Matsumoto.) True, Matsumoto obtains this yaw motion by implementing a braking force difference between left and right road wheels. However, Matsumoto does not disclose the calculation of a deceleration controlled variable as claimed.

The Office Action cites col. 6, lines 56-57, of Matsumoto, as allegedly teaching a deceleration controlled variable calculating section. In these lines, Matsumoto teaches the calculation of target brake hydraulic pressures for the four wheels of a vehicle. Again, Matsumoto is calculating brake pressures that may be *variously* applied to the wheels to impart a *yaw* onto the vehicle. (Matsumoto, col. 7, lines 1-4, immediately following the paragraph cited in the Office Action on col. 6.) He is not calculating a deceleration controlled variable as claimed.

Applicants respectfully submit that the only way to read claim 1 onto the teachings of Matsumoto is to interpret the claim recitation “calculate[ing] a deceleration controlled variable” by reading this recitation in a vacuum, contrary to case law and the MPEP. “Claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their ‘broadest reasonable interpretation.’ *In re Zletz*, 710 F.2d at 802 (CCPA 1969).” (MPEP § 2111.01, subsection 1.) One of ordinary skill in the art, after

reading Applicants' specification, would immediately recognize that the claim recitations of claim 1 are different from the teachings of Matsumoto.

In sum, claim 1 is not anticipated by Matsumoto, as each and every recitation of claim 1 is not present, either explicitly or implicitly, in Matsumoto. The claims that depend from claim 1 are thus allowable at least due to their dependency from claim 1.

Claims 21 and 22 are allowable for at least the reasons just detailed, as claim 21 parallels claim 1 except for its use of means-plus-function language under 35 U.S.C. §112, 6th paragraph, and claim 22 recites a method concomitant with the apparatus of claim 21.

New Claims

As seen above, Applicants have added new claims 23-28. These claims depend variously from claims 1, 21 and 22, and further recite parameters upon which calculation of the deceleration controlled variable is based.

Applicants respectfully submit that to the extent that the PTO maintains that calculation of the deceleration controlled variable as claimed in the independent claims reads on the teachings of Matsumoto (which it does not, as detailed above), the specific features of determining this variable, as now recited in new claims 23-28, are not present in Matsumoto. Thus, these claims are allowable for additional reasons beyond their dependency from independent claims which are allowable, as detailed above.

Support for these new claims may be found, among other places, at paragraphs 0031-0033 and 0047-0049 of the specification as originally filed.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Examiner Chin is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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my 12, 2006
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